

MATERIAL SAFETY DATA SHEET

Date: 10/17/97

No. 846

A. P. GREEN INDUSTRIES, INC.
GREEN BOULEVARD, MEXICO, MO 65265

APGI Emergency Telephone Number — Call 573-473-3626
Transportation Emergencies — Contact CHEMTREC at 800-424-9300
International Emergencies — Contact CHEMTREC at 703-527-3887
Health Emergencies — Contact Your Local Poison Center

SECTION I

PRODUCT NAME: GREENKLEEN-60
GREENKLEEN-60 Plus

PRODUCT TYPE: Castable Refractory

Canadian WHMIS Classification: D,2

NFPA Rating: 1-0-0

CHEMICAL FAMILY: SiO_2 = 30-35% Al_2O_3 = 58-62% **FORMULA:** Not Applicable
 CaO = 2-4% Fe_2O_3 = 1%

SECTION II PRODUCT HAZARDOUS INGREDIENTS

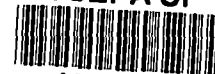
<u>CHEMICAL</u>	<u>TLV-TWA</u>	<u>CAS #</u>
Cristobalite (SiO_2) (< 2%)	0.05 mg/m ³ * Respirable Dust	14464-46-1
Quartz (SiO_2) (< 2%)	0.1 mg/m ³ * Respirable Dust	14808-60-7
Amorphous Silica (SiO_2) (4-6%)	2 mg/m ³ * Respirable Dust	69012-64-2
Alumina (Al_2O_3) (8-12%)	10 mg/m ³ * Total Dust	1344-28-1
Refractory Cement (8-9%)	None (See Section IV)	12005-57-1

*Source: American Conference of Governmental Industrial Hygienists, 1996.

SECTION III HAZARDS INFORMATION

This product contains crystalline silica. Prolonged exposure to dust may cause silicosis, a progressive pneumoconiosis, or other respiratory diseases. International Agency for Research on Cancer (IARC) has classified crystalline silica as Group 1. The agency states there is sufficient evidence of carcinogenicity in humans. Reference: IARC Monograph 68.

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Dust from product at any stage of its use or during tear-out after service may, especially on long exposure, lead to lung disease unless respiratory protection is employed. NIOSH approved respirators should be worn any time that refractories are torn out after service. While a respiratory hazard and/or nuisance dust may exist from the product itself, other foreign substances may warrant additional precautions during tearout and disposal.

SECTION IV **FIRST AID MEASURES**

EFFECT OF OVEREXPOSURE:

<u>EYES:</u>	ACUTE:	Dust can cause mechanical irritation. Product's cement can cause eye irritation.
	CHRONIC:	None Known
<u>SKIN:</u>	ACUTE:	Product's cement can cause skin irritation.
	CHRONIC:	None Known
<u>INHALATION:</u>	ACUTE:	Dust generated can cause breathing discomfort or irritation.
	CHRONIC:	Long-term exposure to dust may cause lung damage.
<u>INGESTION:</u>	ACUTE:	Unknown
	CHRONIC:	Unknown

FIRST AID MEASURES:

EYES: Flush with clean water for 15 minutes. If irritation occurs, consult physician.

SKIN: Wash with soap and water. If irritation occurs, consult physician.

INHALATION: Remove to fresh air. Seek medical attention.

INGESTION: Contact physician immediately. Do not induce vomiting unless instructed to do so by physician. Product is non-toxic as supplied, but its abrasive nature could damage internal organs.

SECTION V **FIRE FIGHTING MEASURES**

FLAMMABLE PROPERTIES: None

EXTINGUISHING MEDIA: Not Combustible

FIRE FIGHTING INSTRUCTIONS: No special instructions.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION VI **ACCIDENTAL RELEASE MEASURES**

SMALL/LARGE SPILL: If dry, predampen and sweep or shovel up. If wet (after mixing with water for use), sweep or shovel up and place in a container for disposal.

SECTION VII
HANDLING AND STORAGE

Store in a dry place. Product is non-flammable.

SECTION VIII
EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: General mechanical ventilation is usually adequate (SECTION II).

RESPIRATORY PROTECTION: Use a NIOSH approved respirator when working around dried material and when removing this product after service.

EYE PROTECTION: Goggles or safety glasses with side shields should be worn.

SKIN PROTECTION: Gloves and long-sleeved and long-legged clothing should be worn to prevent skin contact.

OTHER: Safety shoes should be worn to prevent foot injury from accidentally dropped bags of castable.

SECTION IX
PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Gray to Tan, Granular Mixture		
BOILING POINT:	Not Applicable	pH:	8-9
SOLUBILITY IN WATER:	Slight	ODOR:	None
SPECIFIC GRAVITY:	2.8	MELTING POINT:	Not Applicable

SECTION X
STABILITY AND REACTIVITY

Product is stable under normal conditions of use, storage, and transportation.

Product can react with concentrated acids.

SECTION XI
TOXICOLOGICAL INFORMATION

LD₅₀ or LC₅₀ for oral, dermal, or inhalation routes of administration: no data for product.

SECTION XII
ECOLOGICAL INFORMATION

Ecotoxicological/chemical fate information: not available.

SECTION XIII
DISPOSAL CONSIDERATIONS

As supplied, product may be disposed of in an approved landfill, in accordance with federal, state, and local regulations.

Supplier can make no statement concerning disposal of used product, since product may become contaminated by hazardous materials during use.

SECTION XIV
TRANSPORT INFORMATION

U.S.A. DOT: Not Regulated
Canadian TDG Hazard Class & PIN: Not Regulated

SECTION XV
REGULATORY INFORMATION

TSCA Status: All Components Listed

Canadian DSL: All Components Listed

SARA Title III, Section 313: This MSDS provides the toxic chemical "SUPPLIER INFORMATION" required under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372. Toxic chemical information, if applicable to the product(s) named, is located in **Section II - HAZARDOUS INGREDIENTS** section of the MSDS. This information is subject to the toxic chemical reporting requirements of Section 313 and must be included in all MSDSs that are copied and distributed for this product.

SECTION XVI
OTHER INFORMATION

MSDS Status: Replaces MSDS Dated 08/11/97

Note: This material safety data sheet contains confidential proprietary information and is not to be disclosed to the general public or to competition except as required by law. The information accumulated herein is believed to be accurate but is not warranted to be, whether originating with A. P. Green Industries, Inc. or not. This information is offered solely for use in your evaluation of this product in respect to safety, health, and environmental hazards.

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